Using results of Bernstein-Frenkel-Khovanov, Stroppel, Sussan, etc., one obtains a categorification of tensor products of the standard representation of $U_q(sl_2)$ using singular blocks of category O for $sl_m$. The simple objects in these categories give us the canonical basis under this categorification. Here we describe a positive characteristic analogue of this picture: we categorify the same tensor product representation of $sl_2$, using blocks of representations of $sl_m$ in positive characteristic (with zero Frobenius character, and singular Harish-Chandra character). This is closely related to a geometric categorification constructed by Cautis, Kamnitzer and Licata. Joint work with Gufang Zhao. (Received February 13, 2016)